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ABSTRACT

This practicum was designed to address attention deficit and hyperactive behaviors (ADDH) in the elementary classroom setting. The primary goal was to provide teachers with an effective intervention technique which requires little time and addresses the ADDH syndrome. A second aim was to increase teachers' understanding of the ADDH syndrome and its etiology, and to familiarize regular classroom teachers with current treatment methods for overactive and impulsive behaviors. The Conners' Behavior Rating Scale (Abbreviated Form) was used to identify third-to-fifth grade ADDH students referred by classroom teachers as being overactive and inattentive. Teachers of eight identified students were trained to reinforce and monitor their ADDH children's self-rating and self-instruction. The eight students received training in self-rating and self-instruction when working independently. Weekly meetings were held with the students to raise self-esteem, responsibility, and self-awareness, and to review and reinforce targeted behaviors, work completion, and accuracy in completed work. Results indicated that the students did, in general, decrease their off-task, out of seat, and impulsive behaviors. Work completion increased and accuracy in completed work improved only slightly. Teachers' understanding of ADDH issues increased and teachers reported positive behavior changes among their students. Appendices contain background information on behavior problems, a teacher questionnaire, and rating sheets. (22 references) (Author/JDD)

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Teaching Elementary School Teachers Cognitive-Behavioral Techniques to Address ADDH Behaviors in the Classroom Setting

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by

Marcella Vogelmann-Peper

Cluster 29

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A Practicum I Proposal presented to the Ed.D. Program in Early and Middle Childhood in Partial Fulfillment of the Requirements for the Degree of Doctor of Education

NOVA UNIVERSITY

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PRACTICUM APPROVAL SHEET

This practicum took place as described.

Verifier: Jay Marshall
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May 18, 1990

This practicum report was submitted by Marcella Vogelmann-Peper under the direction of the advisor listed below. It was submitted to the Ed.D. Program in Early and Middle Childhood and approved in partial fulfillment of the requirements for the degree of Doctor of Education at Nova University.

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Abstract

Teaching Elementary School Teachers Cognitive-Behavioral Techniques to Address ADDH Behaviors in the Classroom Setting. Vogelmann-Peper, Marcella, 1989: Practicum Report, Nova University, Ed.D. Program in Early and Middle Childhood. Descriptors: Attention Deficit Disorder/ Hyperactivity/Classroom Techniques/Behavior Modification/ Cognitive Behavior Modification.

This practicum was designed to address attention deficit and hyperactive behaviors (ADDH) in the elementary classroom setting. The primary goal was to provide teachers with an effective intervention technique which requires little of the teacher's time, and addresses the ADDH syndrome. A second aim was to increase teachers' understanding of the ADDH syndrome and its etiology, and to familiarize regular classroom teachers with current treatment methods for overactive and impulsive behaviors.

The Conners' Behavior Rating Scale, Abbreviated Form was utilized to identify third to fifth grade ADDH students referred by classroom teachers as being overactive and inattentive. Following this selection, a school wide in-service on ADDH issues was conducted and teachers of the identified students were trained to reinforce and monitor their ADDH children's self rating and self instruction. The latter group of students received training in self rating and self instruction when working independently. In addition, weekly meetings were held with the students to raise self esteem, responsibility and self awareness, and to review and reinforce targeted behaviors, work completion, and accuracy in completed work.

The practicum achieved positive results. Analysis of the data indicated that the eight ADDH students who participated in the cognitive-behavioral intervention technique and in the weekly group sessions did, in general decrease their off-task, out of seat, and impulsive behaviors. The rate of decrease was variable among the eight students and among the five behavioral criteria measured. Work completion increased and accuracy in completed work improved only slightly. Teachers' understanding of ADDH behavioral, etiological and intervention issues increased and all teachers reported positive behavior changes among their ADDH students upon completion of the practicum.

CHAPTER I

INTRODUCTION

Description of Work Setting and Community

The writer's current work setting is located in five rural Central Florida communities where approximately 2,100 students were being served. Three out of the five public schools were elementary grades, kindergarten through 5, and the remaining two schools housed middle and high school students. The socio-economic status of the student population was middle to lower middle class, with the racial distribution varying among the elementary schools. Since this practicum was implemented in only one elementary school building, demographic data will be limited to the target school.

The second largest elementary school in the county, this rural school had a predominantly white student body of 750 children. The school community was undergoing rapid

growth, and the steady influx of children had stretched class size to its maximum with little physical space left for additional classrooms. The faculty consisted of 35 female and two male teachers, ranging between 27 and 53 years in age. On the average, the teachers had 15 years of teaching experience and expressed satisfaction with their work. Non-teaching staff included a 48 year old female principal, a 36 year old male assistant principal, and a 38 year old female guidance counselor. In addition, this writer provided psychological services to the school for one and one half days per week.

The target school housed two resource rooms for students with varying exceptionalities (i.e. Specific Learning Disabilities and Emotional Handicaps). Children requiring self-contained special education services were bussed to neighboring schools. The community's single parent households were consistent with those reported at the national level, and in most cases both parents of the student population were employed.

Writer's Work Setting and Role

As school psychologist for the past eight and one half years, this writer had worked in both regular school facilities as well as in special education centers serving Florida and New York State students aged five to 21. While working in an Upstate New York school system for five years, approximately 50% of the work week was devoted to evaluating children referred for psychological services because of academic or behavioral difficulties. Some of these students were found to be eligible for special education programs and those who were not, frequently required the writer's continued service via consultation with the classroom teacher to modify behavior and learning strategies. Ten percent of the New York work load consisted of conducting in-service training programs and workshops for teachers and aides as well as supervising paraprofessionals hired for a district-wide Primary Mental Health Prevention Program. Fifteen percent of the work week was spent on implementing and monitoring behavioral programs for difficult to manage students in a special education center, and 20% on conducting individual and group counseling with handicapped children. The remaining responsibility consisted of working on a committee which made educational placement decisions for potentially handicapped students.

During the first year in Florida, this psychologist assisted in establishing an elementary school-based unit for severely emotionally disturbed children, and once in place, operated as school psychologist and therapist for the unit. Children referred to the unit were assessed by this writer, and a close link between home and school (with compulsory parent involvement) was maintained by this writer. This included teaching parenting skills, implementing behavioral programs at home, and conducting family therapy sessions. For the past two and one half years, this writer resumed the more traditional school psychologist role in the same school district working in the setting described above.

Approximately 65% of this writer's time at the target school was devoted to conducting psychological evaluations of potentially gifted children and students referred for academic or behavioral difficulties. The remainder of the time was spent consulting with teachers, parents, the principal and assistant principal, as well as staffing educationally handicapped and recently tested children. In-service training programs were also provided by this writer on a needs basis.

CHAPTER II

STUDY OF THE PROBLEM

Problem Description

Hyperactivity, minimal brain dysfunction, attention deficit and hyperkinetic are a few of the terms used in the past to describe the current Diagnostic and Statistical Manual of Mental Disorder - Revised (DSM III - R) classification of Attention Deficit Disorder with Hyperactivity (ADDH). It is a vaguely defined disorder in which inattention, impulsivity and hyperactivity must have existed for at least six months, and the onset must have occurred before age seven.

In the absence of a clear cut symptomotology, parent and teacher reports are often considered sufficient criteria for application of the diagnostic label "hyperactive" (Rosenbaum, O'Leary and Jacob, 1975) and the prevalence of this syndrome in the general child population has been estimated to range between three to 15% (Cotugno, 1987). This high variability in reported incidence rates appears

to be due to the inconsistencies in defining what precisely constitutes ADDH (Cotugno), and the latter points out that researchers have been unable to agree as to whether ADDH is a syndrome, an organic brain dysfunction or descriptive behavior.

Prescription of psychostimulant drugs is the primary treatment method for overactive, impulsive and distractible behavior, and approximately two per cent of all school aged children are reported to be on medication for hyperactivity (Boco and Robin, 1980, cited in Rosen, O'Leary and Conway, 1985) with a 60% to 90% effectiveness rate for relieving the symptom (Rosen, O'Leary and Conway, 1985). This wide range in the treatment success rate may, once again, be due to the vague diagnostic definition of the disorder, yet production of psychostimulant drugs has increased dramatically this decade with Ritalin taking the lead. Consumption of methylphenidate (Ritalin) has doubled between 1985 and 1987 (Education Week, 1987) and it is the most frequently prescribed drug for ADDH and hyperactivity. Ritalin's reported side effects include anorexia, insomnia, decreased height and weight gains, tics, and Tourette syndrome. The list of negative effects is still growing, and more recently

depression and hallucination have been added. Outraged by the severity and nature of these side effects, some parents have taken legal actions against their children's home school charging that their children's teacher and principal had pressured them into having their children medicated.

Regardless of the etiology (i.e. neurological or anxiety related), hyperactive behavior becomes most problematic in the classroom setting where sustained attention, a reflective response style, sitting still, and delaying gratification are important ingredients to academic and social success. Hyperactive children deviate from this norm and are difficult to manage as they are disruptive, at times quarrelsome, and the youngsters have difficulty working independently. Teachers who have unsuccessfully applied strategies to modify the hyperactive child's behavior are frequently torn between feelings of ineffectiveness and a fear that neither the troubled student nor the rest of the class are receiving the academic instruction time they should. Confronted with this dilemma and unaware of Ritalin's harmful side effects, these teachers view Ritalin as the only remedy for the hyperactive syndrome. Some of the teachers share this notion with parents who, in turn, pass the teacher's concerns on to the pediatrician.

In this writer's eight and one half years of public school service, striking differences were found in the ADDH incidence rate, and in the number of children medicated for it. This variability was found both within school districts as well as between states (i.e. Upstate New York and Central Florida). However, variability in ADDH incidence and medication rate was far more extreme in the Central Florida School district, and a survey conducted in June, 1988 reflected that some elementary schools had as few as .5% and as many as 3.7% of its student population on medication. Moreover, an inquiry at the target school revealed that two classroom teachers reported having seven ADDH children in their classes, and two others reported having none. The average number of ADDH students per class had been reported to be about two. Some of these children were on medication, and none of the classroom teachers were utilizing non-medical intervention techniques to modify their students' behaviors. In addition, these teachers indicated that most of their students had been placed on Ritalin with no direct interaction between physician and the school, and none received a structured behavioral intervention program before psychostimulants were administered.

Briefly stated, the problem at the target school was that classroom teachers did not know how to address ADDH behaviors in the classroom setting. These teachers had only a vague understanding of the syndrome and believed that there was little they could do to reduce the activity level, impulsivity and off-task behaviors of the ADDH child.

Problem Documentation

1. A district wide survey conducted in June, 1988 reflected that among the 15 elementary schools investigated the target school ranked fifth highest in the number of students medicated for hyperactivity or ADDH.
2. Examination of the psychostimulants held for daily distribution revealed that 2.2% of the children were taking methylphenidate and .3% were on Cylert.
3. Data sheets submitted by each of the target school's classroom teachers in the middle of this school year, indicated a range of zero to seven reported cases of hyperactive children or students with ADDH per class. Two teachers reported having zero and two teachers reported having seven cases in their room. The most frequently reported number of cases were two per class,

and other teachers found three, four, and six hyperactive or ADDH children in their respective rooms.

4. Teacher interviews and classroom observations indicated that no structured behavioral interventions were implemented for students identified as having ADDH.

5. Psychological referrals made and personal interviews conducted with the target school's teachers indicated that the latter did not have a clear understanding of hyperactivity, distractibility, and attention defict.

6. Discussions with teachers at the target school reflected that they were stressed by overcrowded classes, children with diverse ability and academic achievement levels, and the ever increasing state and federal criteria for academic competence. Few of these teachers were receptive to implementing a behavior modification program for troubled students, as they viewed such a program as being too time consuming, unfair to the remainder of the class who is not rewarded for appropriate behavior, and as being only marginally successful.

Causative Analysis

Causes of the problem at the target school were:

1. Teachers did not know what hyperactivity and ADDH are.
2. Teachers' treatment of choice was medication.
3. Teachers were not schooled in cognitive-behavioral techniques.
4. Many teachers had difficulty dealing with children who deviate from the norm.
5. Teachers are schooled in teaching and feared that it would take too long to intervene in hyperactive and ADDH behaviors.

Relationship of the Problem to the Literature

Much research has been conducted on pharmacological, behavioral, and cognitive intervention techniques and their effect on ADDH behaviors in the academic setting. The literature is replete with studies conducted with methylphenidate alone, and Ritalin combined with behavioral and cognitive-behavioral approaches. Operant conditioning techniques for treatment of the ADDH syndrome were very

prevalent in the literature during the seventies. Although highly effective, these intervention methods have largely been replaced with cognitive-behavioral approaches which reduces the teacher's involvement and places the bulk of the responsibility on the student. Dietary effects on ADDH behaviors are inconclusive, and environmental manipulation (e.g. reducing visual and auditory distractors, allowing physical space and movement for the ADDH child) show promise but were difficult to implement at the target school. Thus, the pharmacological and cognitive-behavioral approaches were the most relavent intervention techniques for the problem at the school under discussion.

Ritalin has been carefully studied among children diagnosed as having ADDH by varying the length of pharmacological treatment, dosage, and experimental task (Gadow, 1985; Rapport, Murphy and Bailey, 1982; Whalen, Henker, Collins, McAuliff and Vaux, 1979; and Wulbert and Dries, 1977). Rapport et al. found, for instance, that Ritalin produced a U-shaped dose-response curve for both teacher rated improvement in hyperactivity and in academic completion rate. More specifically, 15 mg. a day of Ritalin appeared to be the optimal dose for seven and eight year old

boys for maximizing completion of math problems and on-task behavior, and for minimizing hyperactive behavior rated by the classroom teacher. Higher dosage (i.e. 20 mg. a day) resulted in deteriorated work completion rate and in head jerking in one of the subjects. When comparing effectiveness of response cost with stimulant treatment techniques, Rapport et al. found both methods effective in changing academic completion rates. However, the response cost method was found to produce a higher and more stable trend of responding among their experimental subjects than did Ritalin. Specificity and idiosyncratic drug effects have also been found by a number of other researchers.

Ritalin effect and task specificity was studied by Wulbert and Dries (1977). These authors found that tasks requiring rote learning or fine motor control are facilitated by medication. Problem solving and abstract reasoning, by contrast, appear to be unaffected by psychostimulants. Comparing effectiveness of behavioral and pharmacological intervention strategies among various target behaviors, Wulbert and Dries found that sequential memory skills are significantly improved with behavioral strategies, and ritualistic behavior was found to worsen with Ritalin.

Whalen et al. (1979) both confirm and elaborate on the Wulbert and Dries (1977) findings. Hypothesizing that the stylistic changes produced by Ritalin in hyperactive children lead to the perception that they are learning more and are better when on medication, Whalen et al. focused on the manner of task approach, actual task achievement, and social appropriateness when studying hyperactive boys on Ritalin and placebo. Results of this study indicate that without medication their hyperactive subjects were more excited, intense, and expressive than when medicated, and mildly dysphoric (sadder and more self derogatory) when Ritalin was administered. In addition, actual task achievement did not vary significantly under the Ritalin and placebo conditions. Whalen et al. thus concluded that methylphenidate has a stronger influence on behavioral style (e.g. response inhibition) than on task outcome. Long and short term medication effects have also been studied during the past few years.

Houter (1980) reports that although short term effects of methylphenidate on hyperactivity seem to be positive, long range administration of the drug fails to

produce the same results. Using measures of intellectual and emotional growth as indicators of improvement, children treated with Ritalin for an average of 51 months showed no more improvement than those not treated (Houter). Similar results are reported by Houter when academic achievement was used as the dependent variable in a study with hyperactive children medicated for a two year period. Whalen et al. (1979) and Friman and Christophersen (1983) had similar findings, and the former found the rapid behavioral improvement which occurred with psychostimulants particularly noteworthy. In adolescence, and regardless of whether or not medication had been continued, pervasive behavioral, social, and academic difficulties were still (or again) manifested in many of these individuals (Whalen et al.).

Further research on methylphenidate's positive effects in the classroom setting needs to be conducted. Thus far, the notion of Ritalin's global beneficial effect has been challenged, and many new questions have been raised. Behavioral and cognitive-behavioral approaches, on the other hand, have consistently proven highly effective with ADDH children and these techniques have equaled or surpassed

Ritalin's effect in modifying such critical classroom skills as remaining in-seat and on-task, work completion, accuracy in work completion and reducing impulsive responses. The research literature of the previous decade abounds with excellent behavior modification techniques which effectively reduce some of the ADDH behaviors. However, behavioral programs require the teacher's consistent attention which sometimes makes implementation both difficult and stressful for a regular classroom teacher. Cognitive-behavioral approaches show much promise in the classroom setting, as they significantly reduce teacher involvement and instead place the responsibility for modifying the behaviors on to the child.

Self control and self instructional training as well as self recording and self evaluation in the classroom setting have gained much attention in the research literature (Bowers, Clement, Fantuzzo, and Sorensen, 1985; Christie, Hiss, and Lozanoff, 1984; Friman and Christophersen, 1983; Guevremont, Tishelman and Hull, 1985; Horn, Chatoor, and Conners, 1983; Neilans and Israel, 1981; and Rosenbaum and Drabman, 1979). Research indicates that hyperactive students

can be taught to correctly observe and record their own behavior,successfully engage in self-instructional training, and accurately self-administer reinforcers. For example, when comparing the effect of self- and teacher administered reinforcement in a learning disability resource room, Bowers et al. found that self administered reinforcers consistently achieved greater benefits on such behaviors as sustained attention and staying on task, than teacher-mediated reinforcers. Moreover, accuracy in administering reinforcers among students and teachers was 93% and 96%, respectively.

Rosenbaum and Drabman (1979) produced very strong evidence that self-recording (i.e. monitoring and recording one's behavior with a minimum of judgment) not only can be effectively taught to elementary school aged children, but that this activity produces positive changes in the recorder. In their literature review,Rosenbaum and Drabman cite many studies in which the act of self-recording alone resulted in a significant increase in study behavior and a substantial decrease in disruptive behavior. Moreover, researchers found that positive behavior changes also occurred outside the classroom setting.

In summary, a review of the literature indicates that psychostimulant drugs and cognitive-behavioral intervention techniques can be effective in modifying ADDH behavior. Research further reflects that methylphenidate is more effective in modifying academic behaviors when combined with a behavioral or cognitive approach and the latter technique seems to surpass the positive impact of psychostimulants on such variables as in-seat and on-task behavior and increased and improved work production. Moreover, improvement in academic achievement has been reported with cognitive intervention techniques. Few, if any such results have been attributed to the pharmacological method.

CHAPTER III

ANTICIPATED OUTCOMES AND EVALUATION INSTRUMENTS

Goals and Expectations

The primary goal of this practicum was to provide teachers at the target school with an effective tool for addressing hyperactive and ADDH behaviors in their classrooms. A secondary goal was to give teachers a better understanding of what hyperactivity and the ADDH syndrome are, and provide them with information on strategies for modifying hyperactive and ADDH behaviors. It was expected that teachers of ADDH children would be receptive to implementing a cognitive behavioral program as it requires little of their teaching time and would substantially increase in-seat and on-task behavior, independent work completion, and accuracy in completed work. It was also expected that teachers would gain a better understanding and broader view of the ADDH syndrome and that they would implement cognitive-behavioral intervention techniques in addition to or in place of psychostimulants when dealing with hyperactive or ADDH children.

Behavioral Objectives

The following objectives were expected to be attained:

1. Provide teachers with an effective cognitive-behavioral technique for reducing activity level, impulsivity, and out of seat and off-task behavior among hyperactive and ADDH elementary school children.
2. Increase work completion and accurate responses during independent seat work among hyperactive and ADDH elementary school children.
3. Minimize direct teacher involvement while maximizing the targeted students' responsibility in the management process.
4. Increase teachers' understanding of hyperactivity and the ADDH syndrome.

Measurement of Objective

Prior to implementation, the following data was collected for the purpose of making pre- and post intervention comparisons:

1. Teacher Intervention Frequency Count.

   Fifteen minute time spans were selected on three different days to obtain a frequency count of the classroom teacher's interventions with the ADDH child. The following activity periods were selected during the three 15 minute observation periods:

   a.) Individual seat work

   b.) Group activity

   c.) Class activity

   For more detail, please refer to Appendix A.

2. Teacher Questionnaire.

   (Appendix B)

3. Base line data from the targeted students on the following criteria:

   a.) Percentage of assigned problems completed during independent seat work.

   b.) Percentage of correct responses made on independent seat work tasks.

   c.) The number of times out of the seat (i.e. standing up, wandering around, or running).

d.) The number of times in-seat and off-task during the above observation period (for criteria, please refer to Appendix C).

e.) The number of impulsive acts/responses. (Appendix D)

Post intervention data on all of the above measures was collected, and the objectives of this practicum were considered achieved, when the following conditions were met:

1. Teacher Intervention Frequency Count:
   A reduction of at least 50% had to be attained. Pre- and post treatment was compared, and results were compared pictorally (by means of tables).

2. Teacher Questionnaire:
   This measure was designed to reflect the teachers' knowledge about how to address hyperactivity and ADDH, as well as their understanding about the two phenomena. A 50% improvement on the mean post treatment test score was considered adequate for attainment of these two criteria.

3. Student Behavior/Achievement
   Pre and post treatment data on work completion, accuracy of completed work, in-seat and on task behavior, and

impulsive acts/responses were compared. This comparison was made for individual students (i.e. within subjects) and among all of the "treated" ADDH children (i.e. across subjects). Mean comparisons were made for work completion and accuracy of completed work. All data was converted into percentages, and an improvement rate of at least 50% was expected on all the measures. Results are presented in Tables.

In-seat and on-task behavior were compared prior to and at the end of the "treatment phase". Averages of the pre- and post treatment results were compared, and a minimum of 50% improvement was expected. Results are presented in Tables.

Impulsive acts/responses can, in general, be objectively recorded. However, the impulsive/reflective cognitive behaviors do not lend themselves quite as readily to quantification. Thus, the former can be easily recorded by using frequency counts. Base line data were compared to "end of treatment" data, and a reduction of at least 50% was expected on the impulsive behavior.

CHAPTER IV

SOLUTION STRATEGY

Discussion and Evaluation of Solutions

Many researchers have attempted to address ADDH behaviors in the academic setting. For example, token economies have been instituted to improve accuracy rate (Wulbert and Dries, 1977), and to increase on-task behavior (Rosen, O'Leary and Conway, 1985). Response cost procedures have proven successful in increasing such behaviors as rate of work completion, academic achievement, and sustained attention to task (Kendall and Finch, 1978, and Rapport, Murphy and Bailey, 1982). Psychostimulants have been placed under experimental scrutiny and they were found to be effective in making positive changes in such behaviors as sustained attention, work completion, motor activity, and impulsivity. In addition, relaxation training techniques (Raymer and Popper, 1985), dietary interventions (Frieman and Christophersen, 1983 and Gath, 1986), parent training (Dubey, O'Leary and Kaufman, 1983 and Wulbert and Dries), and modifications in the classroom environment and daily schedule (Houter, 1980) have also been studied in an attempt to decrease some of the behaviors which accompany the ADDH syndrome. All of these techniques have pros and cons, and some simply do not show irrefutable results.

Instrumental conditioning techniques are too time consuming and costly for the classroom teachers at the target school. The response cost method is also costly and requires more of the teachers' time than do cognitive-behavioral interventions. The negative effects of psychostimulants have been discussed at length and in addition they tend to foster a psychological dependency in many of the young users (Rosen et al., 1985). Relaxation training requires further study, and dietary interventions are inconclusive and possibly dangerous (Gath, 1986). Parent training techniques show promise for reducing some of the ADDH behaviors, but they can only serve as an adjunct to cognitive-behavioral techniques used in the classroom setting. Finally, modification of the classroom environment and daily schedule may have some positive effects on ADDH behaviors. However, it is unlikely that either or both of these interventions are as effective as cognitive-behavioral approaches in increasing work completion, in-seat and on-task behavior, impulsivity and accuracy in work completion. Moreover, it is difficult to implement in any of the classes at the target school.

A cognitive-behavioral approach was chosen for this practicum, as it requires relatively little of the teacher's time thus allowing her or him to devote herself to teaching

and to all the students with few interruptions. This approach is also desirable as it puts the burden of responsibility upon the student and (contrary to psychostimulants) gives the ADDH child a sense of being in control and responsible. Moreover, this intervention technique is inexpensive, practical, and instead of producing negative side effects, the behavioral gains made in the classroom might well generalize to other settings.

Report of Action Taken

Because of the simplicity and pragmatic nature of the cognitive-behavioral technique, coupled with the few demands it places on the classroom teachers, it was expected that the latter would be receptive to implementing such a program for their medicated and unmedicated ADDH students. This expectation proved to be correct and all teachers were eager to receive help for their troubled students. In mid February, 1989 teachers of grades three to five were requested to submit a list of children whom they perceived as being hyperactive and inattentive. Following this identification, the referring teachers were requested to complete Conners' Behavior Rating Scale, Abbreviated Form (Conners, 1969). In accordance with Christie's et al.(1984) criterion, children who scored at least 1.96 standard deviations above the mean on this measure, were selected for this practicum. Ten students were found eligible

under this guideline, and two of these children were excluded from the practicum as they failed to return the signed consent form for participation in the program. Students in grades three to five were targeted for this practicum as it is expected that younger children may have some difficulty adhering to the various components of the intervention technique.

Prior to implementation in early March, baseline data (as described in page 25) was collected, and a one hour in-service was presented to all teachers at the target school during the monthly faculty meeting. In addition, two one half hour in-service sessions were conducted with the teachers of the eight ADDH children who would participate in the training program. Topics of the three meetings consistend of the following:

1. Overview of ADDH (one hour session):
    a.) History; Problem with definition; etiology
    b.) Treatment methods - pros and cons
    c.) Questions and discussion
2. Overview of classroom intervention technique to be implemented:
    a.) Student responsibility
    b.) Teacher responsibility
    c.) Questions and discussion

3. Practice session:

   a.) Observation

   b.) Recording

   c.) Cuing students for self recording

Concurrent with the in-servicing of classroom teachers, the targeted ADDH students received the following training sessions:

1.) Introduction to the program to be implemented in their classroom.

2.) Discussion of individual differences followed with a general description of ADDH behaviors and their impact and consequences on others and self, respectively. A deliberate effort was made to distinguish between undesirable behaviors and a "bad" person. Emphasis was also placed on the fact that most behaviors are within one's control.

3. Definition of off-task and out of seat behavior: With the writer's guidance, students generated a list of and consequences for these two behaviors.

4. Improving upon accuracy in independent work assignments: Strategies and methods were generated by the children.

5.) Increasing systematic and reflective work habits: A worksample, with deliberate mistakes was analyzed by the students, using Kendall and Finch's (1978) self instruction technique (in modified form).

During the second week in March, the program was implemented in the classroom. It was hoped that teachers would utilize 15 to 20 minute intervals for cuing students to self record [Research has shown that teacher selected cuing schedules can be somewhat flexible without negatively affecting student performance (Christie et al., 19840]. However, the teachers reported that such short intervals were difficult to remember, and consequently end of independent seat work rating was instituted instead. Both teacher and this writer intermittently recorded the students' behavior (at 15 to 20 minute intervals) on the initial day. These ratings were compared with the students' self ratings before lunch and before dismissal time.

The second classroom application phase was extended over a two week period. During this phase adult recording and instruction in the self-instructional method was continued with a gradual decrease in adult involvement.

The third classroom application phase consisted of the actual program with occasional "spot recordings" conducted by the teacher. It was hoped that the teachers would reinforce self-instruction when reviewing the written material with the ADDH students. This, likewise, was difficult for the teachers to carry out as most reported not having sufficient time to spend with one child. Continued monitoring of the students' self rating occurred during this phase with an increased emphasis self sufficiency in self-recording and self-instruction.

Brief weekly meetings with teachers were conducted throughout the three months implementation period to insure a constant flow of feedback for possible alterations if needed. In addition, 45 to 60 minute weekly group sessions were held with the ADDH children from early March through late May, and five of the eight students had a perfect attendance record. The remaining children missed several sessions because of field trips or appointments with physicians or dentists. The focus of these group meetings included the following:

1.) Review of rating sheets (which were collected at the weekly meetings).
2.) Review of the completed seat work assignments.
3.) Review of the self-instruction method, using the collected work samples.

4.) Teaching sensitivity to and nonjudgmental acceptance of others' ADDH behaviors in the group setting.

5.) Providing mutual constructive feed back as impulsive and highly active student behaviors were occurring during the group meetings.

In late May and early June, post implementation data was collected in the manner described on page 25. Since raters unknown to the ADDH children could not be obtained at the target school, post implementation data collection was also conducted by this writer. This could potentially present a problem as the writer's presence in the classroom (although deliberately based at the back of the room and out of the targeted children's sight) might have motivated the children to exhibit their best behavior and best academic performance. To insure the reliability of the post intervention data collected, the following steps were taken:

1.) Teachers were asked whether the behaviors observed during the three sessions were typical (i.e. behaviors also demonstrated when the writer was not in the classroom) or, whether the children behaved differently in the writer's presence.

2.) Post implementation data was compared to the previous two weeks' daily student and teacher ratings on the rating sheets (Appendix E).

3.) Work completion and accuracy was compared to the work samples collected weekly for data collection and reinforcement of the self instruction method.

The children's daily rating sheets were scored on a yes/no basis and the criteria to be rated were defined as follows:

In Seat - precluded standing up, wandering around (including such avoidance behaviors as sharpening pencils, trips to the water fountain) or running.

On Task - as defined in Appendix C.

Raise Hand - as defined in Section (a) of Appendix D.

Clear Desk - only those items which were necessary for the task at hand were permitted on the desk. In addition, children were not permitted to reach inside their desks to retrieve objects which had no relevance to the independent seat work assignment.

Think - this criterion included items (a) and (b) in Appendix D and the self instruction method discussed above. The latter two criteria are difficult to assess, but if adhered to by the students they should be reflected in an increased accuracy rate of their independent work.

All of the rating sheet criteria had been reviewed at least twice with the teachers, and they were reinforced by both the classroom teachers and this writer during the first two weeks of the implementation period.

Subjective rating of program effectiveness was sought from the classroom teachers of the eight ADDH students. This was accomplished by having teachers rate the Teachers' Behavioral Rating scale (Table 5) on a range from one to four at the end of the school year.

CHAPTER V

RESULTS, CONCLUSIONS, RECOMMENDATIONS, AND DISSEMINATION

Results

It is interesting to note that less than half of the students identified by the classroom teachers as being ADDH actually qualified on the Conners Behavior Rating Scale (Table 1).

Table 1

INITIAL NUMBER OF CHILDREN REFERRED AND ACTUAL NUMBER OF CHILDREN INCLUDED

	Initial	Actual
5th Grade	9	5*
4th Grade	12	2
3rd Grade	5	3
Total	26	10*

*Two parent permissions could not be obtained, hence these children could not be included in the program

This apparent overidentification underscores the need to provide teachers with more information about the ADDH syndrome as they play an important role in suggesting that potential ADDH students be evaluated by physicians. Fifty percent of the targeted students were also classified as

having learning disabilities (Table 2) and this ADDH/LD ratio is consistent with current research findings.

Table 2

Characteristics of Group Members

	Age	Grade	Other
David	11	5	LD
Travis	10	4	LD*
Joey	8	3	LD**
Phillip	9	3	LD
Cheryl	10	5	Gifted but mainstreamed (had been medicated prior to program involvement)
Wesley	10	4	
Amy	8	3	
Justin	10	3	Parents separated during mid point of the program

* Had been medicated in the past
** Currently medicated

Pre and post intervention data indicates that all children improved on the Off Task; Out of Seat; Communicates without Permission; Distractions in/on Desk; and Impulsive

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Wesley	10	4	*
Amy	8	3	
Justin	10	3	Parents separated during mid point of the program

* Had been medicated in the past
** Currently medicated

Acts variables (Table 3). However, the expected 50% improvement rate on the four behavioral variables did not occur with all the ADDH children, hence the objectives set for them were not met in each case. Every student very effectively remembered to clear the desk and to refrain from reaching inside it for objects irrelevant to the seat work assignment, and Dave achieved a 50% reduction rate on four out of five variables measured. Out of seat behavior never occurred during pre and post intervention observations and hence was not an issues with David. All objectives set for Dave have been met. Phil improved on three out of the four behavioral variables by at least 50% (Out of Seat, Communicates without Permission, and Impulsive Acts). Thus the Impulsive Acts and In-seat objectives were met with Phil and the On-Task objective was not met. Cheryl achieved a 50% or greater reduction on two of the behavioral variables (Out of Seat and Impulsive Acts) and thus failed to achieve the On-Task objective, while accomplishing the In-Seat and Impulsive Acts objectives. Joe improved by slightly above 50% on the Communicates without Permission criterion and Wesley had a substantial (but not 50%)reduction in Out of seat behavior. Neither boys achieved the three behavioral objectives set form them. Justin and Travis made the fewest behavioral gains among the eight ADDH students

likewise did not achieve the three behavioral objectives. The former student's parents were in the process of separating in early May, and this had a very negative effect on Justin's interest in school and on his academic performance. The reasons for Travis' relatively slim progress with the cognitive behavioral approach are not clear.

Table 3

Pre and Post Intervention Percentages

	Off Task		o/o Seat		Comm. w/o Per.		Distr. in/on Desk		Impulsive Acts	
	Pre	Po.	Pre	Po.	Pre	Po.	Pre	Po.	Pre	Po
Da.	35	15	-	-	25	12	10	1	25	12
Ju.	34	29	5	3	35	26	5	2	40	29
We.	40	35	15	8	8	6	85	15	23	14
Tr.	47	45	10	7	8	6	67	10	18	13
Joe	60	53	10	8	19	8	96	27	29	16
Th.	45	44	18	8	10	5	84	17	28	13
An.	72	61	5	3	4	4	87	26	9	7
Ch.	30	21	4	2	8	5	5	1	12	6

Percentages based on total time observed

o/o Seat: Out of Seat
Comm. w/o Per.: Communicates without Permission
Distr. in/on Desk: Distractions in or on the Desk

Before and after program intervention differences were calculated for each of the four behavioral variables and mean differences indicate that the eight ADDH students combined made the greatest improvement on the Impulsive Acts variable. The second highest gains made by the ADDH group was on the Off Task variable. Communicates without Permission and out of Seat ranked third and last, respectively.

All ADDH students improved on the work completion variable (Table 4). However, none of the children was able to achieve the expected 50% improvement rate; hence, they did not achieve the objective set for them. In most cases, the improvement rate between pre and post intervention is unexpectedly low, ranging between two to seven percent. This is somewhat puzzling as the behaviors which interfere with work completion in general improved at a higher rate among the ADDH students than did their work completion. Work accuracy improved for all students except Justin. None of the eight children met the 50% increase in accuracy objective. The increase in accuracy is, however, also low (Table 4), possibly suggesting that the students applied the self instruction technique only minimally when working independently.

Table 4

Work Completion and Accuracy Among ADDH Students

	Work Completion		Work Accuracy	
	Before	After	Before	After
Dave	88%	95%	75%	79%
Justin	74%	78%	65%	65%
Wesley	73%	76%	60%	67%
Travis	60%	62%	58%	61%
Joe	59%	64%	60%	62%
Phil	61%	65%	62%	63%
Amy	64%	70%	73%	75%
Cheryl	81%	85%	71%	72%

At the end of the school year classroom teachers of the eight ADDH students completed a brief survey which addressed program effectiveness. The five criteria listed on the students' daily rating sheet (Appendix E) were selected and the seven teachers rated each criterion on a scale from one to four (Greatly Improved to Worsened). Results indicate that on the average, teachers noted moderate improvements in their ADDH students with respect to the five criteria rated (Table 5).

Table 3

Pre and Post Intervention Percentages

	Off Task		o/o Seat		Comm. w/o Per.		Distr. in/on Desk		Impulsive Acts	
	Pre	Po.	Pre	Po.	Pre	Po.	Pre	Po.	Pre	Po
Da.	35	15	-	-	25	12	10	1	25	12
Ju.	34	29	5	3	35	26	5	2	40	29
We.	40	35	15	8	8	6	85	15	23	14
Tr.	47	45	10	7	8	6	67	10	18	13
Joe	60	53	10	8	19	8	96	27	29	16
Ph.	45	44	18	8	10	5	84	17	28	13
Am.	72	61	5	3	4	4	87	26	9	7
Ch.	30	21	4	2	8	5	5	1	12	6

Percentages based on total time observed

o/o Seat: Out of Seat
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Wesley	73%	76%	60%	67%
Travis	60%	62%	58%	61%
Joe	59%	64%	60%	62%
Phil	61%	65%	62%	63%
Amy	64%	70%	73%	75%
Cheryl	81%	85%	71%	72%

Table 5

Teachers' Behavioral Rating

	In Seat	On Task	Raise Hand	Clear Desk	Think
David	2	2	2	2	2
Justin	3	3	2	1	2
Wesley	1	2	2	1	2
Travis	2	3	2	1	2
Joey	3	2	2	1	2
Phillip	2	3	2	1	2
Amy	2	3	2	1	2
Cheryl	2	2	2	1	2

1= Greatly Improved
2= Moderately Improved
3= Not Improved
4= Worsened

Justin received a no improvement rating on the On-Task and In-Seat measures. Travis, Phil and Amy were also judged as having shown no improvement in On-Task behavior. Joe's teacher found no improvement in the In-Seat variable, and all other criteria were judged as either having greatly or moderately improved among the eight students. All teachers strongly recommended that the intervention program be continued next year with their respective students.

Teacher involvement with the eight ADDH students was substantially reduced when the latter were engaged in individual seat work and group and class activities. Results indicate (Table 6) that for Dave, Wesley and Cheryl the expected 50% reduction rate in teacher intervention was met. For the remaining students the objective was not met, but nevertheless the gains made were noteworthy.

Table 6

Mean Teacher Interventions with Third to Fifth Graders

	Dave	Justin	Wes.	Travis	Joe	Phil	Amy	Cheryl
Bef. Imp.	4	5	6	4	7	6	3	4
Aft. Imp.	2	3	3	3	4	4	2	2

Bef. Imp.: Before implementation of cognitive behavioral program
Aft. Imp.: After implementation of cognitive behavioral program

Pre in-service and post program implementation responses on the Teacher Questionnaire were compared. Mean error rates were calculated for both administrations and results indicate a 34% error rate prior to in-service training and an 18% error

Table 5

Teachers' Behavioral Rating

	In-Seat	On-Task	Raise Hand	Clear Desk	Think
David	2	2	2	2	2
Justin	3	3	2	1	2
Wesley	1	2	2	1	2
Travis	2	3	2	1	2
Joey	3	2	2	1	2
Phillip	2	3	2	1	2
Amy	2	3	2	1	2
Cheryl	2	2	2	1	2

1= Greatly Improved
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	Dave	Justin	Wes.	Travis	Joe	Phil	Amy	Cheryl
Bef. Imp.	4	5	6	4	7	6	3	4
Aft. Imp.	2	3	3	3	4	4	2	2

Bef. Imp.: Before implementation of cognitive behavioral program
Aft. Imp.: After implementation of cognitive behavioral program

rate during re-administration in early June. The objective for a 50% reduction in error rates between the pre and post in-service responses was not quite achieved. This could be due to the fact that the three months period between the administration of the Questionnaires was too long for some of the highly specific items tested on the Teacher Questionnaire.

Conclusion

Attention Deficit Disorder with Hyperactivity (ADDH) is a vaguely defined disorder which easily lends itself to misunderstanding and overidentification. The latter was demonstrated at the target school where more than half of the students identified as being ADDH by their teachers did not meet the eligibility criteria on the Conners Behavior Rating Scale. Some of the referred children had very low scores on the latter Scale and one boy (who subsequently was evaluated by this writer) is an emotionally disturbed youngster who engaged in bizarre and stereotypic rather than hyperactive and inattentive behaviors.

It was hoped that the school wide in-service on ADDH, the three cognitive behavioral training sessions and the weekly

meetings with teachers would provide classroom teachers of ADDH students with an increased understanding of the ADDH syndrome. It was also hoped that these learning experiences and the personal involvement with the cognitive behavioral process would provide teachers with an effective intervention technique for bringing about positive behavioral and academic changes in ADDH children. Results of this practicum indicate that the teachers at the target school did gain a better understanding of ADDH, but they failed to achieve the 50% decrease in error rate on the pre in-service and post program administration of the Teacher Questionnaire. Perhaps some of the questionnaire items were too specific to be remembered over the three months period. A broader questionnaire, including more questions on etiology, treatment and intervention may produce different results.

The eight overactive and inattentive students who participated in self rating, self instruction and in weekly group sessions did, in general, decrease their off-task, out of seat and impulsive behaviors. However, the expected 50% improvement rate for all students and for all behavior variables measured, did not occur. One student achieved all the behavioral objectives set for him at the 50% improvement rate level and two children were able to reduce two out of

the three behavioral objectives set for them (at the 50% reduction level). Another boy had a substantial reduction in Out of Seat behavior but fell short of the 50% objective. Only two children made slim gains on all the behaviors under control. One of these youngsters' parents were undergoing a separation and the student became depressed and unmotivated for the remainder of the school year.

In summary, although the 50% objective for all students and for all behavioral variables was not met, results of this practicum suggest that the self rating technique is an effective intervention for bringing about positive behavioral changes in ADDH children while placing minimal time demands on the teacher.

None of the eight children were able to increase their completed work by 50% and this outcome is puzzling in view of the relative behavioral gains made. Perhaps an operant conditioning technique combined with self rating might have produced better results. Accuracy in completed work showed little improvement with the self instruction method. This lack of progress could be due to the fact that teachers devoted little time to review the self instruction method with the students when grading or reviewing their independent work

assignments. In addition, it should be noted that Friman and Christopherson (1983) were also unable to obtain consistent support for the self instruction method when it was utilized without reinforcement. Hence, tangible reinforcers coupled with self instruction might well have brought about different results.

In general, teachers' rating of program effectiveness is fairly consistent with the gains achieved by menas of the cognitive behavioral intervention technique. The students' grades received during program implementation (Appendix F) are more consistent with their pre program and post program standing with respect to work completion and work accuracy.

Teacher involvement was reduced for all ADDH students. Three children achieved the 50% reduction rate objective for teacher involvement/intervention, and one student accomplished a substantial decrease (albeit below 50%) in the need for teacher involvement. These results are of significance as they suggest that the students became less impulsive, less attention seeking and more self reliant while engaged in monitoring and evaluating their independent seat work behavior.

Generalization was clearly evidenced with two children.

David, during mid point of the implementation period, noted that it was no longer necessary for him to rate himself as: "I now do the things I'm supposed to all the time." Joe, who has a very severe case of ADDH, was reported by his teacher to have become "more mature", and as getting along better with his classmates since participating in the program. Positive behavioral changes very noticable among the eight ADDH children during the weekly group meetings, as their activity levels, self criticism, and intolerance of others' behaviors lessened substantially as time progressed. Several students were or had been on medication (Table 2), and the behavioral gains made by them with the cognitive behavioral method is consistent with those reported in the research (Bowers, Clement, Fantuzzo and Sorensen, 1985; Friman and Christophersen, 1983; Guevremont, Tishelman and Hull, 1985; Horn, Chatoor, and Conners, 1983; and Rosenbaum and Drabman, 1979).

Joe, who is extremely impulsive and overactive, made relatively outstanding behavioral gains while utilizing the self rating method in conjunction with Ritalin, and Cheryl, whose parents chose to take her off medication for the entire program implementation period achieved two of her

three behavioral objectives. Overall, Cheryl made both behavioral and academic gains while engaged in the cognitive behavioral technique, and her teacher indicated that she will recommend nonresumption of psychostimulants to the parents.

The practicum clearly was of value to both the ADDH students and their teachers,and future implementation with major modifications is highly recommended. It should be borne in mind that generalizability of the present results is limited to third, fourth and fifth grade students only. In addition, although the accuracy of post intervention observational data appears to be confirmed by both the teachers and the students' and teachers' ratings of the rating sheets, the collected data might still be slightly flawed.

Recommendations

1. If conducted on a school wide scale, additional personnel is needed to ensure a consistent 10 to 15 minute rating schedule and to help the children with self instruction. This help can be inexpensively obtained by contacting

psychology and education professors who are willing to incorporate such field experience into the college curriculum.

2. For pre and post program data collection, several raters should be trained to ensure a high rate of rater reliability. College students involved in the program could easily be trained to fulfill this role.
3. Group size of the weekly sessions should not exceed five.
4. Statistical analyses of the data should include null hypotheses, and the quantitative behavioral and academic objectives should be lowered.
5. The school wide in-service session should be extended to at least 1½ hours.
6. Pre and post teacher training data, as measured by the Teacher Questionnaire, should be collected from all the teachers.
7. Teacher Questionnaire items should include more questions on etiology, identification, and intervention.
8. Tangible reinforcers should be provided for work completion and for accuracy of completed work.

Dissemination

Results of this practicum will be presented to all the school psychologists in the school district at a monthly meeting of the school psychologists. In addition, the results will be presented to the head of the Exceptional Student Education (ESE) department, and the principal, assistance principal,and the teachers at the target school.

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APPENDIX A

TEACHER INTERVENTION FREQUENCY COUNT

Teacher Intervention Frequency Count

Teacher invervention consitutes the following teacher actions with the ADDH student:

1. Verbal reminders or reprimands
   - this includes "sit down...", "don't...", "stop...", "get your work done...","did you finish...", "get your pencil out...", as well as verbal and non verbal cuing (e.g. "Peter...", eye contact, pointing, touching the student).

2. Solicited and unsolicited help given during group and independent work.

3. Punishment (e.g. taking away a privilege, removing student from the group or assigned seat, sending student to the principal's office).

APPENDIX B

TEACHER QUESTIONNAIRE

Teacher Questionnaire:

Please select the best answer to questions 1 through 10:

1. The following interventions are of benefit to hyperactive children:
   a.) Reduced structure
   b.) Punishing inappropriate behavior
   c.) Removal of sugar from diet
   d.) Consistent management approach with high degree of structure.

2. What percentage of hyperactive children have learning disabilities:
   a.) 100%
   b.) 50-75%
   c.) 25%
   d.) 5%

3. Studies on mothers of hyperactive children reveal that:
   a.) Most are also hyperactive
   b.) Most have poor parenting skills
   c.) Came from broken homes
   d.) Are depressed

4. Hyperactivity occurs

a.) more often among boys

b.) more often among girls

c.) is equally distributed among girls and boys

d.) is found among 25% of school aged children

5. The leading cause of hyperactivity is

a.) food additives

b.) sugar

c.) heredity

d.) all of the above

e.) a and b

f.) none of the above

6. Characteristics of hyperactivity include

a.) social inappropriateness

b.) impulsivity

c.) poor academic achievement

d.) b and c

e.) all of the above

7. When dealing with hyperactive children, teachers should:
   a.) increase visual and auditory stimulation in the room
   b.) give the student opportunity to move within the classroom setting
   c.) decrease visual and auditory stimulation in the room
   d.) a and b

8. The most effective method for improving hyperactive children's grades is:
   a.) sending daily reports to parents
   b.) verbal praise for appropriate behavior
   c.) punishing poor academic performance
   d.) behavioral intervention techniques

9. Hyperactive children respond best to:
   a.) loud, enthusiastic, frequent praise
   b.) ignoring inappropriate behavior
   c.) counseling
   d.) quiet and consistent behavioral techniques

10. Hyperactive children's assigned work

a.) must be kept the same as for the rest of students

b.) must be finished in class at all times

c.) should be neat and accurate

d.) may need to be reduced

APPENDIX C

IN-SEAT AND OFF-TASK BEHAVIOR

In-seat and off-task behavior constitutes the following:

While seated, the following behavior will be recorded:

a.) Not attending to class activity, teacher's instruction or question for approximately five or more seconds. This includes daydreaming, speakingor gesturing to other students, looking out the window or other students, playing with or focusing on objects which are meaningless to the topic at hand.

b.) Not attendint to individual seat work for approximately five or more seconds. This includes all the criteria listed under "a".

APPENDIX D

IMPULSIVE ACTS AND RESPONSES

Impulsive Acts/Responses

The major objective of this measure is to foster a more reflective behavior and cognitive style in the child. Quantifiable behaviors will include:

(a) Calling out or getting out of the seat to satisfy a need (e.g. giving an answer when not called on; leaving the seat to get something from the teacher or another student without having requested permission to do so).

(b) Considering all options and studying a problem before attempting to solve it.

APPENDIX E

RATING SHEET

APPENDIX F

STUDENT GRADES

Name_____ Date_____

	A.M.	P.M.
IN Seat		
On Task		
Raise Hand		
Bonus		
Clear Desk Top		
THINK before Doing		

Students' Grades

	Language Arts			Reading			Spelling			Math			Science			Social Studies		
	BI	#3	#4	BI	#3	#4	BI	#3	#4	BI	#3	#4	BI	#3	#4	BI	#3	#4
David	B	A	B	C	B	B	B	A	A	B	B	B	B	A	B	B	A	B
Justin	B	C	F	C	D	C	A	B	D	C	C	C	A	A	F	C	C	D
Wesley	C	C	C	B	C	C	C	B	C	D	D	C	D	C	C	F	C	C
Travis	B	C	F	B*	B*	B*	D	F	F	C	D	D	C	D	F	C	D	F
Joey	F	C	C	C*	C*	C*	F	F	F	B*	B*	B*	F	F	F	F	D	D
Phillip	D	D	B	D*	D*	B*	F	C	F	C*	C*	C*	B	B	B	B	A	B
Amy	B	B	C	D	B	C	A	A	A	C	B	B	D	B	B	D	D	D
Cheryl	C	B	B	C	C	F	C	C	C	D	B	C	C	D	D	D	F	F

BI: Before Implementation
#3: Third Marking Period
#4: Fourth Marking Period

* Graded by LD teacher